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ABSTRACT

A scale to identify important behaviors in preschool children was developed, and ratings were related to more traditional indices of development and academic readiness. Teacher interviews were used to identify 62 specific behaviors related to maximally adapted and maximally maladapted kindergarten children. These were incorporated into a five-point rating scale consisting of all positive statements which was used in the study as the Adaptive Behavior Rating Scale (ABRS). The resulting scores of two studies using this scale were correlated with the results of Stanford-Binet and Draw-a-Line child assessment measures. The study found a significant but not high relationship, indicating that social competency provides some evidence about the child's intellectual functioning. (DJ)

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The Adaptive Behavior Rating Scale

William J. Meyer

A common complaint among preschool teachers is that the typical assessment instruments (Stanford-Binet) do not really reflect either the behavioral competencies of the children or program effectiveness. Their major point appears to be that there are many aspects of behaviors, particularly social/emotional, that are ignored. These behaviors may be, according to this position, more important to the subsequent adjustment of children in the primary grades of the typical public school system. The purpose of this project was to develop a scale in which the teachers identified important behaviors and then determine how these behaviors relate to other, more traditional, indices of development and academic readiness.

Clearly a case can be made that the affective domain of preschool children's behaviors has been generally ignored in program assessments. There are at least three aspects to the problem : (1) child administered tasks have not been particularly successful (self-concept, motivation, morality, etc.); (2) observation procedures are expensive and the coding schemas have been largely derived from the experimenter's definition of desirable (undesirable) child (teacher) behaviors; and (3) existing teacher rating scales focus on global aspects of the child's behavior as opposed to more specific "critical" behaviors. The most promising procedure, in terms of cost, time, and potential usefulness appeared to be to develop a behaviorally oriented scale derived from teacher interviews.

METHOD

Procedure. An adaptation of Flanagan's (1949) "critical incidence"

procedure was used. Specifically, a sample of three kindergarten teachers were asked to describe a maximally adapted and a maximally maladapted kindergarten child. All statements were probed until the responses were given in objective behavioral terms. For example, the statement "is well behaved" after probing resulted in statements such as "does not grab", "waits in line and stays in place", or "waits for directions before rushing in". Teachers were individually interviewed resulting in 62 specific behaviors which were incorporated into the initial scale. The maladaptive behaviors were reworded in a positive tone for the scale; for example, "does not know my (teacher's) name" appears as "knows teacher's name." In this way all items on the five (5) point scale are positive.

Two studies were completed using the Adaptive Behavior Rating Scale (ABRS). In the first study, a sample of 33 disadvantaged children were rated by three Head Teachers and Teacher Aides. The resulting scores were correlated with the following child-assessment measures: Stanford-Binet (SB), and the Draw-a-Line (DAL). All measures were taken on a pre- and post-test basis with an interval of six weeks. The second study was designed to define the behavioral attributes indexed by the ABRS. A principal components factor analysis was used and involved 22 Head Start Teachers and 300 children.

Study I

Sample. There were 33 lower-class children involved in this study. They were enrolled in a six week program sponsored by the Syracuse University Research and Development Center. There were three groups of children of 11 each, with a Head Teacher and Teacher Aide assigned to each group.

RESULTS

The first analysis involved estimating the internal consistency of

the ABRS. For this purpose, because of the small Ns in each group, the samples were combined. A procedure described by Flanagan (1937) was used and resulted in an estimate of internal consistency of .86.

Summarized in Table 1 are the means and SDs for the total sample of

Table 1

Means and SD on ABRS

	Teachers		Aides	
	M	SD	M	SD
Pre	196.7	33.6	183.4	31.2
Post	213.8	50.8	213.1	51.4

children on the pre- and post-tests for teachers and aides on the ABRS. The means in Table 1 are for total scores but dividing by the number of items indicates that the average rating per item is slightly higher than the middle category, or 3.4. It will be noted that the post-test SDs are larger than those for the pretest which suggests that as both the teachers and aides learned more about the children they made greater discriminations among them. The variance data also suggests the possibility that the children were differentially responsive to the program. Finally an analysis of the difference scores showed that the gains are statistically significant ($t = 5.4$; $df = 32$; $p > .01$ and $t = 7.6$; $df = 32$; $p > .01$), for teachers and aides respectively.

As part of the general assessment program the children were administered the following tests: (1) SD; and (2) the DAL. Both tests were administered twice; during the first week and the last week of the six week program. The data for these tests are summarized in Table 2 only for the purpose of describing the sample. (The DAL means are the rates

Table 2

Means and SDs of Assessment Tests

	Stanford-Binet		DAL	
	M	SD	M	SD
Pre	90.0	16.8	2.0	1.9
Post	96.1	19.7	2.2	1.9

at which the children drew a line 11 inches long with the instruction to draw a line as slowly as possible. A more detailed description of the procedure is reported by Massari, Mayweiser, and Meyer (1969). The SB data indicate that the children are slightly below average. The correlation between the teacher ratings and the SB were .43 and .43 for pre- and post-tests, respectively. Similar correlations for the aides were .46 and .52. All four correlations are statistically significant ($p > .05$). The correlations between the ABRS and the DAL were -.58 and -.30 for the teachers, pre- and post-test, and -.55 and -.29 for the aides. Only the pretest correlations are statistically significant ($p > .01$).

A final analysis of the ABRS was designed to determine the consistency of ratings over the six week program. For the teachers the correlation was .55 which is statistically significant ($p > .01$). For the aides the correlation was not statistically significant ($r = .31$). The correlation between the pre-test score on the ABRS and the change score for teachers was .57 ($p > .01$) and .32 for the aides ($p < .10$). Another outcome of the analysis showed that 11 items did not discriminate among the children. The revised form of the scale is reproduced in Appendix A.

Study 2

The purpose of the second study was to examine the factor structure

of the ABRS and to determine the degree of importance given by preschool teachers to the various behaviors included in the scale.

METHOD

Subjects. A total of 300 children and 22 teachers were included in this study. All the children were enrolled in a Summer(6 week) Head Start Program and met the usual requirements of income, etc. The children lived in the inner city of Syracuse, New York. The teachers were qualified in early childhood education and had previous preschool or kindergarten experience.

Procedure. Each of the 22 teachers was asked to rate each child at the end of the six week program. No specific instructions were given other than those appearing on the form (see Appendix A).

RESULTS AND CONCLUSIONS

The inter-item product moment correlations were determined which formed a 60 x 60 matrix that served as the basis for the principle components factor analysis. A total of four rotated factors were extracted (a factor was retained if the rotated sum of squared loadings was greater than 1.3). The item numbers and their associated factor loadings are shown in Table 3.

Table 3

Summary Item Factor Analysis

of ABRS (Principle Axis-Rotated)

(decimals have been deleted)

Item	II	I	II	III	IV
1		39		37	
2					67
3		43		55	
4		62			
5		45	57		

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Item XI	I	II	III	IV
6	44	58		
7	51	33		
8	46			
9				
10	52			37
11	34	69		
12	79			
13	83			
14	39	49		
15				
16				
17				
18				
19				
20			41	
21				
22				
23				
24				
25				
26				
27		31		
28		34		
29		40		
30				
31		33		
32		30		
33				
34			44	
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				

Item	II	I	II	III	IV
58					
59					
60					
61					41
62					

We have tentatively labeled the factors although these labels are considered to be merely for communication purposes. The items in Factor I have been labeled "Social Competence and Responsiveness." More specifically these items focus on those behaviors reflecting acclamation to the class-room situation, knowing teacher's name and classmate's names, communicating physical needs to the teacher. We have labeled Factor II "Social Conformity and Compliance." This factor includes such behaviors as being orderly in line, sharing upon request, not grabbing, and accepting consequences of own behavior. Factor III may be best labeled "Tidiness." The fourth factor is highly tentative but it seems to suggest "Independence"; that is, the child is able to make decisions on his own and knows his way around the school.

A surprising outcome of the factor analysis was the failure to isolate a factor related to cognitive behaviors. Such a factor did emerge but the variance attributable to the included items was too small to be considered other than error. It is possible that our sample of teachers were unable to make meaningful judgments about the children on the cognitive items because of the shortness (six weeks) of the program. Thus, the variation in ratings concentrated on those social aspects of behavior normally required for the smooth running of a classroom. We have two kinds of data related to this hypothesis. First we asked the Summer Head Start Teachers to rate the behaviors on a five-point scale in terms of their adaptive

importance in the classroom. Table 4 shows the top and bottom ranked items.

Table 4

Top 10 and Bottom 10 Ranked Items

Rank	Item II	Content
1	1	Toilets Self
2	32	Obey Safety Rules
3	4	Reports if Sick
4	3	Uses utensils to feed self
5	10	Knows where lives
6	15	Verbally responds
7	24	Knows his own classroom
8	27	Follows verbal directions
9	20	Cleans up after self
10	18	Attends at least 10 minutes
50	22	Can name primary colors
51	62	Will not attempt new activity
52	39	Can complete idea if teacher stops in mid-sentence
53	44	Changes verbal mistakes when corrected
54	8	Uses more than one color
55	43	Pretends enthusiastically
56	46	Can copy geometric figures
57	45	Can cut out small figures
58	26	Can color inside lines
59	35	Knows names of kitchen utensils
60	36	Knows names of shop tools

The second analysis involved the rating of the same items by a sample of 20 kindergarten teachers from middle-class suburban school district. Examination of the top 10 and bottom 10 items for this group is reasonably similar to those in Table 4. The correlation between the two sets of rankings is $r = .89$. The two sets of data fail to support the hypothesis that teachers regard the cognitive behaviors as important but, rather, both samples of teachers rate social competence and compliance behaviors as crucial. This is particularly surprising when it is recalled that the teachers themselves defined the behaviors included on the scale.

DISCUSSION AND CONCLUSIONS

At a superficial level, the results of the two studies, especially the second study, lend support to the head Start teachers' position that the development of cognitive skills, as assessed by an instrument like the Stanford-Binet, are of relatively little importance to them. Clearly as one examines the relative importance given to the clusters of items within the ABRS, behaviors which broadly include conformity to rules, tidiness, and social independence are regarded by Head Start teachers as important and from their point of view should perhaps be the major variables that are assessed in program evaluation. However, as one examines the data more carefully, this conclusion is perhaps oversimplified. First, there is a significant relationship, albeit not very high, between the ratings teachers give the children on the ABRS and performance on the Stanford-Binet. Thus to the degree that the ABRS indexes the genuinely important aspects of social competency, it is also providing some evidence about the child's general intellectual functioning. Logically one might anticipate such a finding in the sense that many of the social competence items in fact require reasoning and judgment on the part of the child which can hardly be thought of as being independent of general intellectual ability. The picture is complicated even more so by the high correlation between the index of "impulsivity" and the ABRS. Conceptually, the impulsive child is more likely to respond to situations before thinking through the consequences of the act. In this case, the DAL in fact indexes the ability to inhibit motor impulses and many of the items on the ABRS would seem to be behavioral manifestations of this train (grabbing, hitting, not staying in line, etc.). In addition, with this sample of children, the correlation between the DAL and the SB is -.45 for the pretest and -.56 for the posttest

($p < .05$ and $p < .01$, respectively). These data indicate that the tendency toward impulsive behavior negatively influences performance on the Stanford-Binet and conceivably many of the more cognitively oriented items on the ABRS would be similarly negatively influenced (knowing the name of the teacher, for example). The conclusion seems warrented, therefore, that although teachers apparently pay little attention in their decision making to specific cognitive competencies (knowing colors, for example) and a great deal of attention to social competence behaviors, they are nevertheless making judgments onbehaviors that are in fact related to general intellectual ability.

With respect to assessing the overall usefulness of the ABRS for either program assessment or the assessment of individual children, the data are not particularly helpful. It is in fact the case that the instrument has substantial internal consistency but there are no data available that permit one to determine the predictive power of the instrument with respect to subsequent performance of children. It was frankly not possible to generate the data necessary because this would have required the development of an elaborate observational procedure and longitudinal follow-up of the children. Funds were simply not available for such activities. Certainly to the degree that the ABRS shares variance with the SB, one might anticipate that the instrument would predict achievement levels with an accuracy no less than available instruments. An interesting research question, however, would be to examine the ABRS in conjunction with an instrument like the SB to see if the unshared variance might increase the level of predictive accuracy. The reader should feel free to use the ABRS in any way they deem appropriate and the writer would appreciate receiving the results of any such studies.

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Appendix A

Child's Name_____

Sex_____

Date_____

Teacher_____

Please indicate as accurately as possible how this child behaves by marking one of the five responses for each item. Base your response to every item on your personal observation and experience with the child.

(Please make one (1) check for each of the 51 items).

	Never	Once in a while	Some-times	Most of the time	Always
1. Pretends enthusiastically					
2. Handles his body in coordinated way					
3. Does not grab					
4. Describes feelings of like or dislike about things					
5. If sick or hurt can report it to parent or teacher; tell what hurts					
6. Knows names of kitchen utensils and how used					
7. Cleans up after himself; helps clean up area					
8. Can name primary colors					
9. Asks questions if doesn't understand words or directions					
10. Makes verbal relations between what is happening and other incidents in or out of school					
11. Waits in line and stays in place					
12. Accepts consequences of own behavior, i.e. does not blame others for own accidents					
13. Uses I, We, He, when speaking					
14. Can use eating utensils to feed himself					
15. Knows name of Teacher					
16. Reports infringements on own equipment, food, ect., by another child to teacher or gets it back peacefully					
17. Can draw simple designs and some letters with crayon					
18. Remembers safety rules					
19. Changes verbal mistakes in grammar when instructed					
20. Knows classmates names					
21. Uses more than one color or material when making painting, or decorating pot or bowl					
22. Can hold and control pencil or brush					
23. Notices nature of and changes in properties of objects, i.e., collar missing, form of clay, growing plants, etc.					
24. Knows male from female					

	Never	Once in a while	Sometimes	Most of the time	Always
25. Can give verbal discription and reasons for his behavior					
26. Is able to go to the toilet by himself					
27. Knows TV commercials and characters					
28. Attends to a work activity such as painting or clay for 1/2 hour					
29. Can get from one room to another in building himself					
30. Can cut small shapes approximately 2 in. with scissors					
31. Will share play equipment when requested by teacher					
32. Will share appropriate equipment when requested by another child					
33. Knows shop tools; what used for					
34. Keeps himself relatively clean, and gets cleaned up if he gets dirty					
35. Knows his bus when it is time to go home					
36. Attends to a sit-still activity such as story for at least 10 minutes					
37. Recognizes photograph of himself					
38. Is orderly in line					
39. Knows where he lives					
40. Follows verbal directions					
41. Knows his own classroom					
42. Can stay inside lines when coloring an outline form					
43. Obeys safety rules					
44. Can complete an idea if teacher stops in middle of sentence					
45. Responds to questions about pictures, etc. with more than grunts or shrugs; i.e. can describe things					
46. Waits for directions before running in					
47. Answers when called on					
48. Comments spontaneously about pictures, exhibits, etc.					
49. Can copy simple geometric figures, circles, triangles, squares, etc.					

50. Has most of your teaching experience been with children who have or would have been eligible for Head Start? Yes _____ No _____

51. How does this child compare with other entering Kindergarten children with whom you have had experience? Please check one below.

Very much below average___ Below Average___ Average___ Above Average___ Very much above Average___